

REMARKS

Claims 1, 3-36, and 51-55 are pending, with claims 1, 22, 34, 51, 53, and 55 being independent. Claims 1, 3, 5, 6, 9, 13, 16, 22, 24-30, and 55 have been amended; claims 8, 10, 11, 14, 15, 19, 20, 25, 26, 30, 32-36, and 51-54 have been withdrawn; and claims 2 and 56 have been canceled. Support for the amendments can be found in the originally-filed specification, at least at page 5, line 1 to page 6, line 23 and Figs. 1-12. No new matter has been introduced.

Claim Rejections – 35 U.S.C. §112

Claims 24 and 27-29 have been rejected as being indefinite. Applicant has amended these claims to replace "distal end" with "detachable needle"; it is believed that this amendment obviates this rejection; and applicant requests withdrawal of this rejection.

Claim Rejections – 35 U.S.C. §102

Claims 1, 6, 7, 9, 12, 13, 16-18, 21, and 55* have been rejected as being anticipated by U.S. Patent No. 5,562,685 (Mollenauer). Applicant requests withdrawal of this rejection because Mollenauer does not describe or suggest a sharpened tip having an exposed, tapered, and closed opening configured to trap a suture at a selected point within the opening and to permit the suture to pass lengthwise through the opening, as recited in claims 1 and 55.

Mollenauer relates to a suturing instrument having a handle 12 or 102 and a coiled projection 14 or 104 extending from the handle 12 or 102. See Mollenauer at col. 4, lines 43-50; col. 9, lines 36-40; and Figs. 1 and 12. The coiled projection 104 has a pointed tip 106 having an aperture 108 that extends transversely through the pointed tip 106. See Mollenauer at col. 9, lines 40-43 and Fig. 12. The aperture 108 is a closed eye that is "dimensioned sufficiently large to enable passing a length of suture through the aperture." See Mollenauer at col. 9, lines 42-44. Alternatively, the aperture 108 could be an open eye aperture 109. See Mollenauer at col. 9, lines 44-49 and Fig. 12.

* Claims 2 and 56 have been canceled, and are not listed in the recitation of rejected claims.

However, neither Mollenauer's aperture 108 nor aperture 109 is tapered and configured to trap a suture at a selected point within the aperture. Rather, the aperture 108 is designed with a straight edge and there is no point for suture to be trapped within the aperture 108. Moreover, there is no description that the aperture 109 would be tapered or would trap the suture at a selected point within the aperture 109.

Accordingly, for at least these reasons, claims 1 and 55 are allowable over Mollenauer. Claims 6, 7, 9, 12, 13, 16-18, and 21 depend from claim 1, and are allowable for at least the reasons that claim 1 is allowable and for containing allowable subject matter in their own right. For example, claim 13 recites that the elongated shaft extends along an axial direction, and the sharpened tip is angularly bent about a tip axis that is non-parallel with the axial direction and is relative to said shaft in a selected direction. Mollenauer does not describe or suggest such a sharpened tip. The pointed tip 106 in Mollenauer's instrument is bent along a spiral that extends from the handle 102 and the bending is about an axis that is parallel with the axis of the handle 102. See Mollenauer at Fig. 12. As another example, claim 16 recites that the elongated shaft extends along an axial direction, and the sharpened tip is curved at least partially about the distal end of the shaft and about the axial direction. Mollenauer does not describe or suggest such a sharpened tip. In Mollenauer, the pointed tip 106 may be curved, but it is not curved partially about a distal end of the handle 102. Rather, the pointed tip 106 and the coiled projection 104 extend distally from the handle 102 and are not curved about the handle 102.

Claims 22-24, 27-29, and 31 have been rejected as being anticipated by Mollenauer. Applicant requests withdrawal of this rejection because Mollenauer does not describe or suggest a detachable needle at a distal end of an elongated shaft and having a through opening into which a suture is attached, as recited in independent claim 22.

Mollenauer describes an instrument that has a needle 78 that is detachable from a distal end 80 of a coiled projection 74 that extends from a handle 72. See Mollenauer at col. 7, line 62 to col. 8, line 31 and Fig. 10. Additionally, Mollenauer also described an instrument having a needle 90 that is detachable from a distal end 96 of a coiled projection 88 that extends from a handle 86. See Mollenauer at col. 8, lines 31-55 and Fig. 11. In both of these instruments, while

the needle 78 and 90 is detachable, neither needle 78 nor needle 90 has a through opening into which a suture is attached. Rather, as explained, suture 82 is connected to a rearward end of the needle 78 (presumably into a cavity of the needle 78) and filaments 92 are attached to a rearward end of the needle 90 (presumably into a cavity of the needle 90). See Mollenauer at col. 8, lines 10-16 and 39-44.

Accordingly, claim 22 is allowable over Mollenauer. Claims 23, 24, 27-29, and 31 depend from claim 22, and are allowable for at least the reason that claim 22 is allowable and for containing allowable subject matter in their own right. For example, claim 27 recites that the detachable needle is curved at least partially about a distal end of the shaft. In Mollenauer, neither the needle 78 nor the needle 90 is curved at least partially about a distal end of the handle 72.

Claim Rejections – 35 U.S.C. §103

Claims 3-5 have been rejected as being unpatentable over Mollenauer in view of U.S. Patent No. 3,645,222 (Zocher). Claims 3-5 depend from claim 1, which was rejected as being anticipated by Mollenauer. As discussed above, Mollenauer does not describe or suggest a sharpened tip having an exposed, tapered, and closed opening configured to trap a suture at a selected point within the opening and to permit the suture to pass lengthwise through the opening, as recited in claim 1. Zocher does not remedy the failure of Mollenauer to describe or suggest this subject matter. In Zocher, self-threading sewing machine needle includes a needle eye 15 is formed that is open into a threaded slot 40. See Zocher at Figs. 1, 2, 6, and 7. Thus, Zocher lacks a closed opening and teaches away from a closed opening because Zocher's needle is designed to be self-threading. See Zocher at col. 1, lines 29-35. Moreover, one of ordinary skill in the art would not have been motivated to modify Mollenauer with the needle eye 15 of Zocher because any such modification would change the principle of operation of Mollenauer, in which the aperture 108 is placed at the end of the coiled projection 104 as a closed aperture. To modify Mollenauer with Zocher's needle eye 15 would also provide for a slot that would extend

into the coiled projection 104, but such a modification of Mollenauer's instrument would render manufacture and operation of Mollenauer's instrument complicated and cumbersome.

Accordingly, claim 1 is allowable over any proper combination of Mollenauer and Zocher. Claims 3-5 depend from claim 1, and are allowable for at least the reasons that claim 1 is allowable, and for containing allowable subject matter in their own right. For example, claim 4 recites that the opening includes a central portion that has a tapered configuration. However, neither Mollenauer nor Zocher describes or suggests such a central portion with a tapered configuration. Mollenauer's aperture 108 lacks a tapered configuration. Moreover, while Zocher's eye 15 has a taper, it is not designed with a central portion having a tapered configuration; the taper is at an end portion (the distal end) of Zocher's eye 15. See Zocher at Figs. 6 and 7.

Conclusion

In conclusion, applicant submits that all claims are in condition for allowance. It is believed that no fee is due in connection with this filing. Nevertheless, please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

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